



# LAGNIAPPE

John C. Stennis Space Center

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October 2011



## Stennis celebrates 50!

See special coverage inside

### NASA announces plans for new space vehicle

**N**ASA announced plans Sept. 14 for a new Space Launch System (SLS) that will carry humans into deep space once more.

The advanced heavy-lift launch vehicle will carry the Orion Multi-Purpose Crew Vehicle, as well as important cargo, equipment and science experiments to Earth's orbit and destinations beyond. The SLS also will serve as a backup for commercial and international cargo flights to the International Space Station.

The SLS rocket will incorporate investments from the Space Shuttle and Constellation programs in order to take advantage of proven hardware and cutting-edge tooling and manufacturing technology that will significantly reduce development and operations costs.

It will use a liquid hydrogen and liquid oxygen propulsion system, which will include RS-25D/E engines (space shuttle main engines) for the core stage and the J-2X engine for

the upper stage. Both engines will be tested for flight certification at Stennis Space Center. Stennis engineers tested every main engine for 135 space shuttle missions and already is conducting sea-level and developmental testing for the J-2X engine.

The first developmental flight for the new SLS is targeted for the end of 2017. The system will be NASA's first exploration-class vehicle since the Saturn V took American astronauts to the moon in the Apollo Program.

From the desk of  
**Patrick Scheuermann**  
 Director  
 Stennis Space Center



**H**appy 50th Birthday, Stennis Space Center! This October is special as we wrap up the yearlong events we have enjoyed to commemorate our history. I am sure all had fun at the picnic. The Stennis Gala, where the community presents the Roy S. Estess Public Service Leadership Award, will move to the INFINITY at NASA Stennis Space Center science facility next year and become a premier annual event.

The people in the towns of Westonia, Logtown, Gainesville, Napoleon and Santa Rosa sacrificed for the good of the country and were moved to create what is now a thriving federal city and an economic engine in south Mississippi. Their sacrifice in 1961, in answer to President John F. Kennedy's call to launch humans to the moon and bring them back safely, would not have been possible without this unique capability. Stennis Space Center is America's largest rocket engine test facility.

Our anchor will continue to be our crucial role in supporting America's rocket engine test work. We are currently testing rocket engines for NASA, the Department of Defense and commercial aerospace companies. NASA Administrator Charlie Bolden recently announced the new Space Launch System (SLS). This new rocket will be the most powerful in the world. The engines and stages for this new NASA vehicle will be tested right here at Stennis. In fact, the

J-2X engine testing project is already under way on the A-2 Test Stand.

Over the past 50 years, the Stennis employee base has continued to grow and diversify in composition and scope of missions. There are currently over 30 federal agencies and commercial companies at Stennis that employ more than 5,000 people. With the recent reincorporation of the former Mississippi Army Ammunition Plant property and approval of our 25-year master plan by NASA Headquarters, we are poised to continue to grow. An important principle in our sustainment and opportunity for growth in the future will be the continued dedication of all of us to work safely and efficiently each and every day. We are continuing to optimize the business model that maximizes taxpayer investment at the center.

With announcement of the SLS testing work at Stennis, our main mission is secure for the next 50 years! Our NASA and resident agency missions continue to be highlighted at the national level because of the great job each of YOU do every day. Your efforts will lead to success and just reward, individually and collectively, with even more work being assigned to us in the future.

This special *Lagniappe* features how far we have come in the past 50 years. Our commitment should always be to execute our mission and never forget those individuals and families who so dearly sacrificed their homesteads and gave us the opportunity to push the state of the art in many technology areas.

Our predecessors are very proud that we carry on such a great and noble mission in spaceflight and in science. Keep up the great work.

*Patrick*

## Chairman Palazzo views Stennis rocket engine test

Stennis Space Center Director Patrick Scheuermann (right) stands with Rep. Steven Palazzo, R-Miss., to view a Sept. 29 test of the RS-68 rocket engine on the B-1 Test Stand. The test was the third of the week at Stennis. Tests also were conducted on the J-2X rocket engine on the A-2 Test Stand and on the Aerojet AJ26 rocket engine on the E-1 Test Stand, both on Sept. 28. The J-2X engine is being developed for NASA's new heavy-lift Space Launch System to help carry humans beyond low-Earth orbit into deep space. The AJ26 engine will power commercial cargo flights to the International Space Station for Orbital Sciences Corporation. The RS-68 engine is owned by Pratt & Whitney Rocketdyne and is used on Delta IV launches. Palazzo is serving his first term in Congress and chairs the U.S. House Subcommittee on Space and Aeronautics.



FULLFILLING NASA'S EXPLORATION MISSION

# Busy times in A Test Complex



The A Test Complex at Stennis Space Center is the scene of considerable activity as fall arrives. (Top photo) Stennis engineers conducted a 40-second test of the next-generation J-2X rocket engine on the A-2 Test Stand on Sept. 28. It was the first test of the engine since it was chosen to carry humans into deep space aboard the agency's new heavy-lift vehicle. NASA recently announced plans for a new Space Launch System powered by core-stage RS-25 D/E and upper-stage J-2X engines. RS-25 engines are the same engines that were used to power all 135 space shuttle missions. The liquid hydrogen/liquid oxygen J-2X rocket engine is being developed for NASA's Marshall Space Flight Center in Huntsville, Ala., by Pratt & Whitney Rocketdyne. (Bottom left photo) Team members check

the progress of a liquid nitrogen cold shock test on the A-1 Test Stand on Sept. 15. The test stand is being modified to begin J-2X powerpack testing, scheduled to begin early in 2012. The cold shock test is used to confirm the test stand's support systems can withstand test conditions, when super-cold rocket engine propellant is piped in. (Bottom right photo) Stennis Space Center employees maneuver the vertical engine installer (VEI) into place on the A-1 Test Stand during its installation Sept. 23. Installation of the new VEI was a milestone event as the historic stand is modified for testing the powerpack component of the new J-2X rocket engine. Once an engine is delivered to the test stand, it is placed on the installer, which then lifts it into firing position on the stand.

# Astronauts honor Stennis employees

Astronauts Jack Fischer (far left) and Kjell Lindgren (far right) stand with recipients of the 2011 Silver Snoopy awards following a Sept. 13 ceremony. Eighteen Stennis employees received the astronauts' personal award, which is presented to less than 1 percent of the total workforce annually. The prestigious award is presented by astronauts, representing their core principles for flight safety and mission success. This year's recipients were: (l to r) Paul Rieder (NASA), David McConnell (Pratt & Whitney Rocketdyne), Keith Stockstill (NASA), Michele Beisler (NASA), Jerry Lewis (Lockheed Martin Test Operations Contract), Luke Scianna (Jacobs Technology Facility Operating Services Contract), Jason Edge (NASA), Michelle Mossbrooks (ASRC Research and Technology Solutions), Michael D'Antoni (PWR), Paula Caudill (Jacobs FOSC), Ed Thornhill (PWR), Charles Gandy (PWR), Rachel Harrison-Woodard (PWR), Ron Magee (NASA), Sallie Bilbo (NASA), Cherie Beech (ASRC), Samuel Brown (A<sup>2</sup>Research) and Benjamin McGrath (Jacobs FOSC).



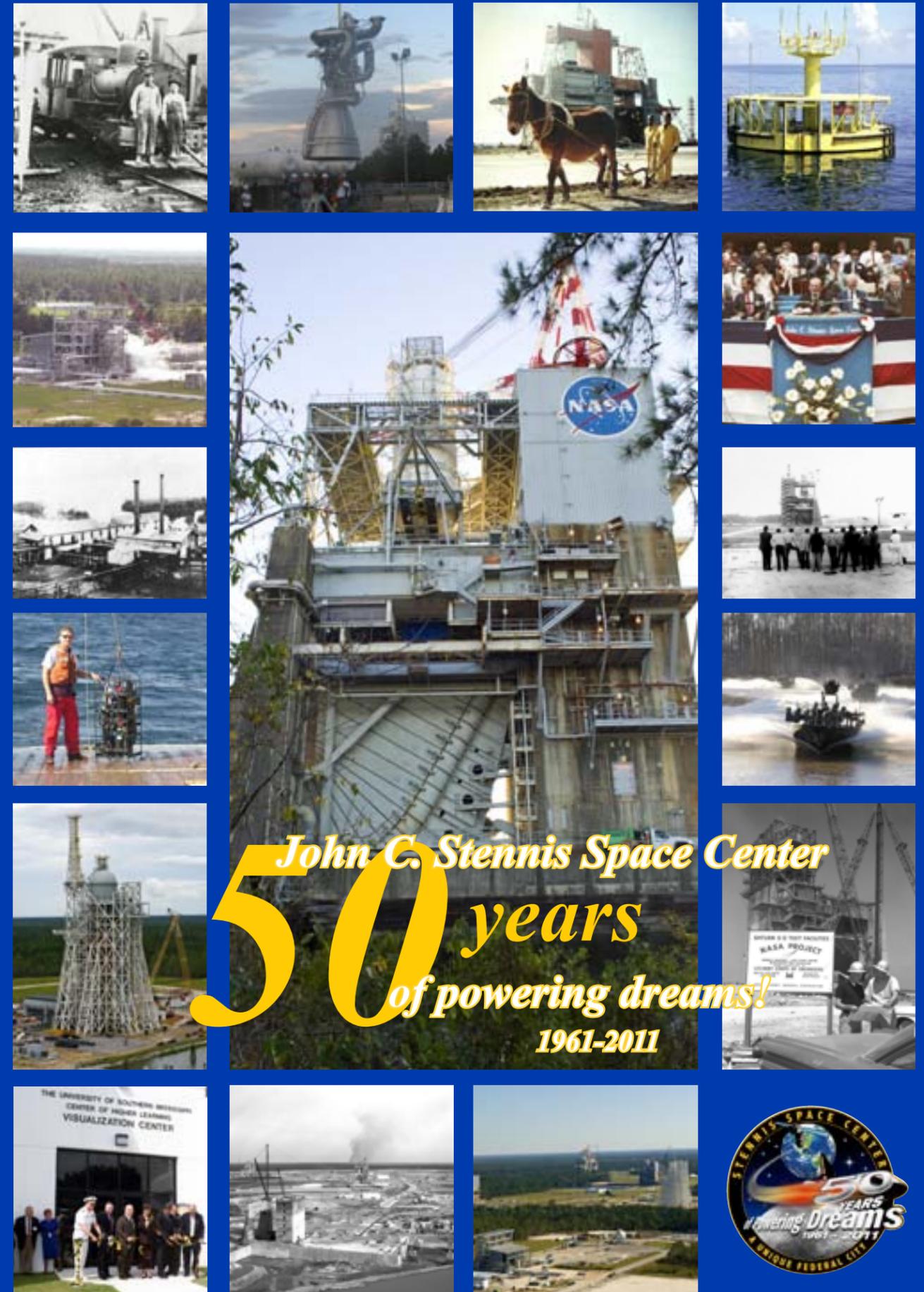
## Stennis team test fires AJ26 engine



Stennis Space Center engineers conducted a Sept. 28 test of an Aerojet AJ26 flight engine that will power the first stage of Orbital Sciences Corporation's Taurus II space launch vehicle, continuing progress in a key commercial space transport partnership. The AJ26 engine test supports Orbital's development activities to provide commercial cargo resupply flights to the International Space Station that are scheduled to begin in 2012. The company plans to demonstrate its Taurus II rocket and its Cygnus cargo transportation system under the Commercial Orbital Transportation Services research and development initiative.

## Stennis tests key A-3 Test Stand component

E-2 Test Stand team members conducted their first series of tests on a three-module chemical steam generator unit Sept. 15. All three modules successfully fired during the three tests, which ran for 11 seconds. Tests on the three-module unit will continue after engineers have had time to assess test data. The chemical steam generator is a critical component for the A-3 Test Stand under construction at Stennis. A series of nine three-module units – 27 modules total – will be linked on the stand. Steam from the generators will be used to create a vacuum that will permit rocket engine tests at simulated altitudes up to 100,000 feet. Such testing is vital for rocket engines designed to fire in space and carry humans beyond low-Earth orbit and into deep space. Work on the A-3 Test Stand began in 2007 and is scheduled for completion and activation in 2013.



# Stennis at 50 – a year to celebrate

Turning 50 years old usually calls for a milestone celebration – and that is just what Stennis Space Center has enjoyed during the past year.

Who can blame them? There are five full decades of excellence in rocket engine testing and service on the frontlines of the American space program to commemorate.

The climactic moment arrives this month, which marks the 50th anniversary of NASA's public announcement on Oct. 25, 1961, to carve a rocket engine test facility out of the harsh terrain of south Mississippi.

However, activities have been building to that point all year, as Stennis employees enjoyed opportunities of historical reflection and family activities. Previous leaders and Stennis "legends" have returned on-site to recall the early days of work. Historical lectures and tours have been conducted. Markers have been placed to celebrate the scenic past and present of the surrounding area and the communities that made way for Stennis so many years ago.

Meanwhile, several events during the year have provided Stennis visitors and employee families an opportunity for fun and fellowship, culminating with a picnic and Gala dinner this month.

Each event served as a time of reflection to look back and appreciate the past contributions of Stennis to the area and to NASA's mission of space exploration. However, each also provided a time of recommitment to the legacy of excellence that has been established and to the unmistakable future that lies ahead for the nation's largest rocket engine test facility, where the nation's space dreams find the power to fly.



(Photos, clockwise from top left) (l to r) George Schloegel, mayor of Gulfport, Miss.; Jack Rogers, former director of NASA Center Operations at Stennis; and Wayne Mooneyham, former director of NASA's Earth Resources Laboratory at Stennis, discuss the growth of Stennis during a Legends Lecture Series presentation April 5.



Stennis Space Center historian Marco Giardino speaks to center employees during An Hour in History session March 22.

A young visitor enjoys a face painting activity during the public 50th Anniversary Open House celebration June 2.

A "Scenic Byway to Space" sign approaching Stennis Space Center on Mississippi Hwy. 607 marks one of the area's historical sites.

MasterChef Whitney Miller visits the cafeteria in the Roy S. Estess Building to unveil her creation – a special 50th anniversary dessert.



(Photos clockwise, from top) Nearly 500 employees and family members took part in NASA's 50th Anniversary Employee Picnic held Saturday, Oct. 8. With blue skies and mild temperatures, participants enjoyed activities ranging from historical tours to sack races.

Amy Snyder (l to r), Kendal Porter, Raven Porter, and Kevin Porter chase an air swimmer through Millennium Hall at StennisSphere, the visitor center at Stennis Space Center.

Volunteers conduct a cryogenics demonstration on StennisSphere's front lawn for picnic attendees.

Zayne Boothe (l to r), Riley Lanonte, and Dillon Rice race to build space vehicles out of LEGO® blocks.



# Stennis – the next 50 years

In the midst of a yearlong celebration of five decades of rocket engine testing, Stennis Space Center found itself in a position similar to what it faced as the 1970s arrived – wondering what its future engine testing assignment would be.

In the early days of the 1970s, with the end of the Apollo Program, the future of the nation's space program – and Stennis' role in it – were unclear. In January 1972, NASA announced launch of the Space Shuttle Program and assigned responsibility for testing the main engines that would power the shuttle spacecraft to Stennis. The first space shuttle main engine test at Stennis in 1975 marked the beginning of 34 years of testing for 135 shuttle missions.

When the Space Shuttle Program ended this summer, the questions again arose about the future of the nation's space program and Stennis' role in it.

It turned out to be a case of *deja vu* all over again.

NASA announced in mid-September plans to build a new heavy-lift Space Launch System that can carry humans beyond low-Earth orbit into deep space once more. The agency also announced that Stennis Space Center would test both engines that will power the new craft – the RS-25 D/E and the next-generation J-2X.



The A-3 Test Stand, which will allow simulated high-altitude testing on the next-generation J-2X engine, is scheduled for completion and activation in 2013.



Testing already is under way at Stennis on the J-2X rocket engine, which will serve as the upper-stage engine for NASA's new Space Launch System.

It makes sense. The RS-25 D/E actually is the space shuttle main engine Stennis has excelled at testing. Five of the engines will be used to power the core stage of the new SLS. The J-2X is being developed as an upper-stage engine that can fire in space and carry humans beyond low-Earth orbit. Stennis already is conducting early tests on the engine and building a new stand to conduct simulated high-altitude tests on it as well.

"Testing of these two engines sets the stage at Stennis for another generation or more," Director Patrick Scheuermann said. "It is assured that Stennis will play a central role in the next 50 years of American space exploration."

The assessment is right in more ways than one. Even as NASA prepares to launch its new space adventures, Stennis is testing engines that will be used to power commercial ventures into space as well. It currently tests the Aerojet AJ26 engine that will power Orbital Sciences Corporation's commercial cargo flights to the International Space Station. Other such testing agreements are in the works or certain to come.

"In the last five decades, Stennis has proven its value as the nation's largest rocket engine test facility," Scheuermann explained. "When companies start looking for the best place to test engines needed for their space flights, Stennis is the logical choice, and we are committed to making it the right choice in each and every instance."

If history is any indication, the close of the Space Shuttle Program and the culmination of 50 years of rocket engine testing is no end at all for Stennis Space Center. As it was so many years ago, it's an open door to new space adventure.

As Stennis Space Center enters its second half century, its focus on cutting-edge excellence has not changed, whether in rocket engine testing or in such areas as Earth science and environmental consciousness.

Stennis already serves on the front lines of NASA's Earth science research efforts through its Applied Science and Technology Project Office. In addition to working with various community partners to use Earth science research to benefit society, ASTPO oversees the Gulf of Mexico Initiative launched by NASA to address a range of coastal issues, such as wetland restoration and conservation.

In terms of environmental consciousness, the south Mississippi facility is setting its sights on building on its federal city commitment to efficiency and cost-effectiveness. "Stennis has a history of providing cost-effective service to taxpayers," said Mark Glorioso, director of Stennis Center Operations. "It is a history we are determined to build on and advance."

In the latest "going green" move, Stennis officials announced plans to reduce waste and conserve natural resources in its food services and print production operations.

Each week, cafeteria customers use nearly 3,300 polystyrene "to-go" boxes and 2,000 foam cup containers. That equals 275,600 foam containers annually added to the landfill. Studies indicate plastics including polystyrene take up 25 to 30 percent of landfill space by volume. In an effort to reduce cafeteria contributions to its landfill, Stennis will replace foam containers now in use with eco-friendly containers derived from renewable resources. The new containers will not contribute to the toxicity of the landfill.

Stennis aims to bring all areas of its operation into compliance with presidential executive orders to take concrete steps in conservation, solid waste reduction and energy efficiency.

In the area of printing, NASA officials have announced plans to move the monthly *Lagniappe* publication to an electronic format and to consolidate various fact sheets into a single electronic mission brochure. These actions will reduce landfill contributions by an estimated 51,000 pounds of paper per year, and save an anticipated \$46,700 in annual print costs.

"These announcements demonstrate our commitment to

be a leader in environmental consciousness and efficiency," Glorioso said. "They also make good on our promise to be a responsible member of our community, as well as ensuring we spend taxpayer dollars wisely."

The cafeteria initiative is only the latest in a long line of efforts by Stennis to reduce and conserve. Some notable achievements during the past several years include:

- **Construction of the 75,000-square-foot Emergency Operations Center, housing the Stennis fire department, security offices, medical clinic, and energy management control system functions.**

Classified as a U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) program Gold facility, the new center features various energy saving measures. The savings translate to 337,866 kilowatt hours of electrical energy each year, or a reduction of 240 tons of carbon dioxide per year. The heating, ventilation and air conditioning (HVAC) design exceeds industry standards. The facility also uses waterless urinals and dual-flush toilets, which save 176,076 gallons of potable water annually.

- **Exceeding the federal energy intensity reduction requirement through lighting system upgrades, HVAC improvements,**

**and installation of more efficient equipment.** The energy intensity total for Stennis in fiscal year 2010 was 19.4 percent below the 2003 energy intensity baseline. Stennis exceeded the 2010 target of a 15 percent reduction in energy use. Stennis also achieved a water intensity reduction at 41 percent below the 2007 baseline.

- **Use of several alternative fuel vehicles in the Stennis fleet.** Use of the vehicles translates to a reduction of nearly 38,000 pounds of CO<sup>2</sup> emissions each year.

- **Custodial services' conversion from traditional paper and cleaning products to more environmentally friendly products.** After only one year, the department had saved nearly \$18,000 in materials alone.

"Stennis has an enviable record in environmental stewardship," Glorioso said. "The credit must go to leaders and employees committed to NASA's vision of maintaining and promoting the environmental health of our planet Earth."

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"These announcements demonstrate our commitment to be a leader in environmental consciousness and efficiency. They also make good on our promise to be a responsible member of our community, as well as ensuring we spend taxpayer dollars wisely."

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# timeline

stennis space center



**May 25, 1961** ... President John F. Kennedy challenges the United States to send humans to the moon and return them safely by the end of the decade.

**July 1, 1965** ... NASA renames its Mississippi Test Operations site the Mississippi Test Facility.



**July 29, 1969** ... Astronaut Neil Armstrong becomes the first human to set foot on the moon. His Apollo 11 mission is powered by first- and second-stage Saturn V rocket boosters tested at the Mississippi Test Facility.

**March 1, 1971** ... As the Apollo Program ends, NASA assigns responsibility for testing space shuttle main engines to the Mississippi Test Facility.

**May 28, 1976** ... A flag-raising ceremony marks official move of the Naval Oceanographic Program to National Space Technology Laboratories.



**April 21, 1978** ... The first test of the Space Shuttle Main Propulsion Test Article is conducted, which involves simultaneously firing three space shuttle main engines arranged in flight configuration.

**June 14, 1974** ... The Mississippi Test Facility is renamed National Space Technology Laboratories.

**Feb. 25, 1988** ... Operators at National Space Technology Laboratories conduct the 1,000th test firing of a space shuttle main engine.

**Dec. 30, 1991** ... NASA designates Stennis as the Center of Excellence for large propulsion system testing.

**May 1, 1994** ... Management of the space shuttle main engine test operations program is transferred from NASA's Marshall Space Flight Center in Huntsville, Ala., to Stennis Space Center.

**Feb. 21, 1997** ... Stennis is designated as NASA's lead center for implementing commercial remote sensing activities.

**Aug. 8, 1998** ... All four large test stands – A-1, A-2 and B-1/B-2 – are occupied for the first time.

**Aug. 11, 2005** ... Stennis marks 30 years of space shuttle main engine testing with an afternoon firing on the A-2 Test Stand.



**Jan. 21, 2004** ... A test firing at Stennis marks 1 million seconds of space shuttle main engine test and flight operations.

**Oct. 25, 1961** ... NASA publicly announces plans to build a rocket engine test facility in Hancock County. On Dec. 18, the facility is officially named Mississippi Test Operations.



**April 23, 1966** ... The space age arrives in Hancock County as operators at NASA's Mississippi Test Facility conduct the first-ever Saturn V rocket booster (S-II-T) test on the A-2 Test Stand.

**May 17, 1963** ... Construction workers cut the first tree to start clearing an area for NASA's new rocket engine test facility.



**Sept. 9, 1970** ... NASA announces its Earth Resources Laboratory will be located at the Mississippi Test Facility.



**May 19, 1975** ... The first-ever space shuttle main engine is test-fired at National Space Technology Laboratories.

**March 1978** ... Earth Resources Laboratory Applications Software is developed at National Space Technology Laboratories and implemented worldwide.



**April 12, 1981** ... Columbia launches from Kennedy Space Center on the first flight of NASA's Space Shuttle Program. It is powered by three main engines tested at Stennis.

**May 20, 1988** ... National Space Technology Laboratories is renamed the John C. Center Space Center to honor the longtime U.S. senator from Mississippi who was instrumental in establishment and growth of the rocket engine test facility.

**May 30, 1996** ... NASA designates Stennis as its lead center to manage capabilities and assets for rocket propulsion testing.

**July 24, 1992** ... Stennis operators conduct their 2,000th test firing of a space shuttle main engine.

**Aug. 20, 1990** ... Space shuttle main engine tests are conducted for the first time on all three Stennis test stands on the same day.



**Aug. 5, 2002** ... Ribbons are cut on three new Stennis facilities, valued at more than \$60 million – for Lockheed Martin, the U.S. Navy and the Naval Oceanographic Office.



**Aug. 29, 2005** ... Hurricane Katrina makes landfall, battering southeast Louisiana and the Mississippi Gulf Coast. Tracking maps show the storm's eye passing directly over Stennis Space Center, inflicting damage to several facilities. After the storm, Stennis serves as key relief/recovery location for area residents.



**July 27, 1998** ... Activation is initiated on the E-1 Component Test Facility, a world-class, high-pressure cryogenic test structure at Stennis Space Center.

**April 21, 2006** ... A space shuttle main engine test marks the 40th anniversary of rocket engine testing at Stennis Space Center.

**May 8, 2008** ... Stennis engineers successfully complete an initial series of tests on Powerpack 1A, which is a key component of the next-generation J-2X rocket engine in development.



**July 29, 2009** ... The final space shuttle main engine is tested at Stennis Space Center, ending 34 years of testing flight engines for 135 shuttle missions.

**Sept. 29, 2006** ... Operators conduct the final space shuttle main engine test for the A-1 Test Stand. In early November, the stand is officially handed over to begin testing the next-generation J-2X engine.

**Oct. 22, 2008** ... Operators at Stennis' A-2 Test Stand conduct a final certification test on engine No. 2061, the last space shuttle main flight engine scheduled to be built.

**Aug. 2010** ... The Stennis Education Office develops Mass vs. Weight, its first-ever teaching curriculum. It offers a series of hands-on activities to help educate students about mass and weight concepts. A year later, in support of the curriculum, Stennis hosts area students to dialogue with International Space Station astronauts during the facility's first-ever live video feed from the orbiting ISS.



**Aug. 11, 2011** ... The visit of the STS-135 space shuttle Atlantis crew marks the close of NASA's Space Shuttle Program for Stennis Space Center. The crew returned to Earth on July 21, completing the final flight in the 30-year shuttle program.



**May 2011** ... The Stennis Applied Science and Technology Project Office provides invaluable satellite data on water and sediment flow after Louisiana officials open the Morganza and Bonnet Carre spillways to control Mississippi River flooding.

## 2011 Combined Federal Campaign under way

Stennis Space Center employees launched the 2011 Combined Federal Campaign effort Sept. 14 with announcement of a \$190,000 giving goal.

The CFC is the largest annual workplace charity effort. Each year, its gifts support organizations providing health and human service benefits throughout the world. In each of the last two years, Stennis employees have approached or exceeded the \$200,000 mark in giving.

During the kickoff ceremony last month, Stennis employees were able to view exhibits by some of the organizations supported by the annual campaign.



Stennis employees view exhibits of service organizations during the kickoff ceremony for the 2011 Combined Federal Campaign.

## Stennis completes Feds Feed Families effort

Stennis Space Center employees closed their 2011 Feds Feed Families campaign, totaling 6,956 pounds of food contributions and leading all NASA centers in donation average per employee.

Stennis employees increased their giving total 239 percent from 2010, contributing an average of 6.9 pounds per employee in 2011. Agencywide, NASA centers exceeded the goal of 110,000 pounds in food contributions by totaling 123,968 pounds.

The Stennis Office of Human Capital extended special thanks for success of the 2011 Feds Feed Families food drive to contributing employees in NASA, ASRC Research and Technology Solutions, Lockheed Martin Outsourcing Desktop Initiative and the Government Printing Office.



NASA employees Anita Douglas (lower left, clockwise), Amy Grose, Aaron Brooks and Cabrina Bell sort through contributions to the third Feds Feed Families Food Drive at Stennis Space Center.

## NASA presents 2011 Small Business Awards



Stennis Space Center Director Patrick Scheuermann (right) and Stennis Small Business Specialist Michelle Stracener (left) stand with recipients of 2011 NASA Office of Small Business Programs awards. Each year, NASA recognizes companies who support the agency in achieving or exceeding its small business goals. (Left photo) Jacobs Technology Facility Operating Services Contract Group General Manager Dan Pierre and Senior Contracts Specialist Deborah Case accept the award for the Stennis Large



Business Prime Contractor of the Year. Jacobs Technology won the award for the second year in a row for outstanding contributions to Stennis' Small Business Program. (Right photo) Patriot Technologies Project Leads Marlena LaFontaine (left) and Cynthia Pierce accept the award for the Stennis Small Business Prime Contractor of the Year. Patriot Technologies also was a repeat winner this year. The companies now compete with award winners from other NASA centers for the agency award, to be announced Nov. 3.

**April 9, 2009** ... Structural steel work is completed on the A-3 Test Stand, marking final assembly of four million pounds and 16 stages of fabricated steel on the test stand foundation.



**Nov. 10, 2010** ... Stennis conducts first successful test of the Aerojet AJ26 engine for Orbital Sciences Corporation. The AJ26 will power commercial cargo transport flights to the International Space Station.



**July 26, 2011** ... Stennis operators conduct a successful ignition test of the next-generation J-2X rocket engine. The test signals launch of the third major test series on the historic A-2 Test Stand.

**Aug. 23, 2007** ... NASA officials and government leaders break ground for construction of the A-3 Test Stand, the first large test structure to be built at the facility since the 1960s.



**June 2, 2009** ... NASA officials and visiting dignitaries open the new Emergency Operations Center at Stennis Space Center to house the facility's medical clinic, fire department, security services, energy management control system and incident command post.



**May 2, 2011** ... The main administration building at Stennis Space Center is named in memory of late site Director Roy S. Estess.

*and the journey continues ...*

## After 50 years, Stennis promise still holds true



*Note: For 50 years, NASA's John C. Stennis Space Center has played a pivotal role in the success of the nation's space program. This month's issue of Lagniappe highlights past and present employees at the south Mississippi rocket engine test center.*

**T**hose words were reiterated by the late U.S. Sen. John C. Stennis when he spoke on several occasions at his namesake space center. Stennis' original speech was delivered on Nov. 1, 1961, in Logtown, as he informed local residents that NASA was buying their land and that of their neighbors in Gainesville, Napoleon, Westonia and Santa Rosa.

Stennis' 50-year-old promise is still prevalent as generations of former area residents observe the space center's golden anniversary on Oct. 25, the date NASA publicly announced plans to build a rocket engine test facility in Hancock County.

Reaping the benefits from the late senator's promise are descendants of the late James and Janie Thigpen, formerly of Santa Rosa. The Thigpens were among 660 Hancock County families relocated to make way for the rocket engine testing facility.

Of 10 Thigpen siblings, three brothers worked at Stennis. Four of the siblings have children and grandchildren now employed at the center. Overall, 24 relatives of the Thigpen clan, including spouses, have worked at Stennis.

The late Helen Thigpen Anderson's husband, James "Andy" Anderson, began work at what was then called the Mississippi Test Facility (MTF) in 1968, retiring 24 years

later. "He (Sen. Stennis) pretty well kept the promise," said 84-year-old Andy Anderson of Carriere. "The ones that applied got jobs. If it weren't for Stennis (Space Center), there wouldn't be any jobs around. By (Stennis) being there, we have a fairly decent economy."

Stennis' promise in 1961 has also provided a quality of life for other Mississippi families. Paragon employee Roger Walters Sr.'s entire family – wife Deborah, daughter Shawana Miller and son Roger "Bubba" Walters Jr. – works for Jacobs Technology Facility Operating Services Contract (FOSC) Group. They all reside in outlying areas of Picayune.



Global Associates employee Andy Anderson (l) and a colleague make repairs to a motor control center at the Mississippi Test Facility (now John C. Stennis Space Center) in 1971.

Stennis is a federal city, home to about 30 organizations and companies that provide a variety of career choices for skilled workers, as well as opportunities for professionals.

Lee Paul, now deceased, migrated to MTF as a field engineer in 1962. He remained on-site until his retirement in 1985. Paul's wife, Helen, served in secretarial positions for almost 25 years. Their daughter, Beth P. Keith, has worked at Stennis for more than seven years, including her current stint at the NASA Shared Services Center on-site. "My family has always taken great pride in being a part of the space program," said Keith,

of Bay St. Louis. "When my dad arrived in Mississippi in 1962, he put his roots down and said, 'We're staying.' Here I am, almost 50 years later, still a part of this wonderful program."

Colorado native Dick Hogue was recruited to Stennis while working in Denver. Hogue's 22 years at the center paved the way for his two children to build careers there as well. Daughter Shelly Hogue Lunsford, of Long Beach, works with ASRC Research and Technology Solutions, and son Stan Hogue, of Diamondhead, is employed by Pratt & Whitney Rocketdyne.

"Working at Stennis Space Center has afforded me opportunities to grow in my chosen field of computer science," Lunsford said. "Not only has Stennis provided a quality of life for my family, but it has allowed provisions for my children to seek higher education (at nearby institutions)."

## Office of Diversity and Equal Opportunity

### Dealing with attitudes critical in workplace

*"It's so hard when I have to, and so easy when I want to."*

Anne Gottlier

**A**ttitudes are usually defined as a tendency to respond positively or negatively toward a certain thing (idea, object, person, situation). They are closely related to our opinions and beliefs and are based upon our experiences.

Since attitudes often relate in some way to interaction with others, they represent an important link between cognitive and social responses. As far as instruction is concerned, a great deal of learning involves acquiring or changing attitudes.

As our workforce becomes more diverse, chances are we will be confronted with ideas that are quite different from our own. Many times, we find ourselves confused when confronted by new ideas or different beliefs. It is not always a matter of us as individuals giving up on our own beliefs, but of realizing that other approaches have merit as well.

The learning of new attitudes is no different in nature than any other verbal or motor skill. Unless we learn to acknowledge differing views from our own, we cannot benefit from a team approach. The reward is producing something faster and better than we could have in working by ourselves.

Another concept is a balance theory of attitude change; when beliefs are unbalanced, stress is created and there is pressure to change attitudes. The two main factors af-

fecting balance are the sentiment (e.g., liking, approving, admiring) and unity (e.g., similarity, proximity, membership) qualities of beliefs. Balance exists if the sentiment or unity between beliefs about events or people are equally positive or negative; imbalance occurs when they are dissimilar in nature.

Most of us are reluctant to extreme change and will try to maintain some form of consistency among our beliefs (i.e., accept or reject ideas) when this doesn't occur. If we are assigned to a project and desire to grow and get the most out of the experience, we as individuals have to listen to differing opinions. Benefit from diverse backgrounds does not strengthen the end results unless we each respect the other person's opinion, even when it may be vastly different from our own.

What can we learn about our attitudes? Are we willing to listen to diverse viewpoints? Are we, as a workforce, willing to look beyond what we have done in the past when offered a differing approach?

Unless we as individuals are willing to seek out new ideas and look for the merit others have to offer, we will lose a wealth of opportunity to improve.

### Hail & Farewell

NASA welcomes the following:

Linda Ann Sharpe

Contract Specialist

Office of Procurement



### Stennis Farmer's Market opens

The NASA Exchange sponsored its first Stennis Farmer's Market on Oct. 4, providing employees a chance to purchase locally grown farm products and other approved items. Plans are to sponsor the market on the first and third Tuesday of each month. Items featured in the initial market included jellies, pickle products, breads, fresh farm produce, fresh farm eggs, flowers, herbs and starter vegetable plants.

### Lagniappe is changing!

Beginning January 2012, the monthly *Lagniappe* newsletter from Stennis Space Center will be available solely through electronic means. This will save taxpayer money and allow for a more colorful and appealing presentation of news and events.

Individuals will be able to enjoy *Lagniappe* each month in one of two ways – via the Stennis website or by email delivery of a PDF copy.

To receive email delivery of *Lagniappe*, send email address to – [ssc-pao@mail.nasa.gov](mailto:ssc-pao@mail.nasa.gov)

To access issues online, visit – [www.nasa.gov/centers/stennis/news/publications/index.html](http://www.nasa.gov/centers/stennis/news/publications/index.html)

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## Stennis kicks off 2011 FIRST LEGO® League

Students from across Mississippi gathered at Stennis Space Center on Sept. 17 for a kickoff workshop for the 2011 FIRST (For Inspiration and Recognition of Science and Technology) LEGO® League competition.

FIRST LEGO® League (FLL) is an annual high-energy robotics competition for children ages 9 to 14. The focus is on celebrating science and technology through hands-on participation and learning. In partnership with the LEGO® Group, students use the MINDSTORMS™ NXT system to build robots designed to complete particular tasks related to the competition theme.

At the kickoff event in the StenniSphere auditorium, student teams and their coaches/mentors reviewed this year's "Food Factor" challenge, which explores the topic of food safety, especially the idea of improving food quality by preventing food contamination. In the challenge, teams will build, test and program an autonomous robot to solve a set of food safety missions, as well as research, develop and share their innovative food safety solutions.

Once robots are built, student teams will compete in the 2011 FLL Mississippi Championship Tournament, which is scheduled for Dec. 3 in Hattiesburg. They will be judged in four areas: robot performance, robot design, project presentation and FLL Core Values.

Stennis Space Center supports FIRST by providing men-



A group of Mississippi students work together during a team-building exercise at the kickoff of the 2011 FIRST LEGO® League competition at Stennis Space Center. Watching the team effort are education specialists Randall Hicks with the Jacobs Technology Facility Operating Services Contract Group (left) and Chris Copelan of NASA (right).

tors and training, as well as competition judges and event personnel. This year, with almost 50 teams scheduled to participate in the Dec. 3 tournament, there is a pressing need for volunteers to serve in various areas.

Volunteers should call Randall Hicks at 228-688-3653 or email [randall.t.hicks@nasa.gov](mailto:randall.t.hicks@nasa.gov).

## Stennis hosts pre-service teachers for 1-day workshop

Stennis Space Center educators hosted 45 students from several Mississippi colleges during a Pre-Service Teacher Workshop at the University of Southern Mississippi in Hattiesburg on Sept. 24.

The workshop was designed to provide pre-service elementary and middle school teachers with hands-on, inquiry-based methods for teaching science and mathematics. Pre-service teachers also were presented ideas

for integration of technology and resources into lesson planning and curricula.

NASA aerospace and education specialists presented activities that included the Digital Learning Network, "What's Next for NASA?," robotics, rocketry, and "Spaced Out Sports," the Teaching From Space project developed at Stennis. Participants also received NASA curricula support resources and a workshop stipend.